

WE CLAIM:

1. In a flue-gas system in which the flue gases, at a temperature above the boiling point of water, pass through a heat transfer means on their way to a desulfurizer, a method of minimizing corrosion and build-up by applying to said flue gases at the said heat transfer means a readily water-soluble alkaline substance in an amount sufficient to produce with said flue gases a pH of a minimum of 5.

2. In a flue-gas system in which the flue gases, at a temperature above the boiling point of water, pass through the hot side of a heat transfer means having a cold side and a hot side on their way to a desulfurizer and then pass from the desulfurizer through the cold side of said heat transfer means, a method of minimizing corrosion and build-up by applying to said flue gases at the said hot side of said heat transfer means a readily water-soluble alkaline substance in an amount sufficient to produce with said flue gases a pH of a minimum of 5.

3. In a flue-gas system in which the flue gases, at a temperature above the boiling point of water, pass through the hot side of a heat transfer means having a cold side and a hot side on their way to a desulfurizer and then pass from the desulfurizer through the cold side of said heat transfer means, a method of minimizing corrosion and build-up by applying to said flue gases at the said hot side of said heat transfer means a readily water-soluble alkaline substance in water solution in an amount sufficient to produce with said flue gases a pH of a minimum of 5.

4. The method of any of Claims 1-3, in which said alkaline substance is a member of the group consisting of sodium hydroxide and sodium carbonate.

5. The method of any of Claims 1-3, in which said application to said flue gases includes, in addition to said alkaline substance, one or more of the following substances: water soluble sodium, potassium, or cesium phosphates, silicates and borates and other water soluble anionic salts of said elements having an initial pH of a minimum of 5.

6. The method of any of Claims 1-3 in which, as the flue-gas system functions, the pH of the combination of flue gas and alkaline substance is monitored and the rate of addition of said alkaline substance to said flue gas is modified in accordance with that monitoring in order to substantially maintain the desired pH value.

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